

**TANDY®**

Cat. No. 26-3890

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# **ROMULUS CHESS**

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**A Portable Opponent**

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**For the Tandy 200**

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## MEET YOUR OPPONENT

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As a rule, chess opponents are irritating. They sulk when they lose, and they gloat when they win, and they always have advice. If they don't talk while you're thinking, they blow pipe smoke in your face. Now you have an alternative, a portable opponent to use with your Tandy® 200 Portable Computer. Meet Romulus, a civilized opponent.

While he is a staunch challenger, Romulus is also chivalrous. Mercifully, he can limit his skill to play on 7 distinct playing levels. He also allows you to change sides in mid-game or merely observe as he plays against himself. And whenever you wish to take back a move or even rearrange the board, he permits you to do so.

Take your time. Romulus waits patiently for your most tediously considered move and never boasts when he counters it routinely. Romulus displays a running record of the moves, both yours and his. And if you need a printed copy of the move list, Romulus can provide you one. Or, if you prefer, he erases the board and the move list—without a trace.

The cassette provided with this package contains 2 programs, CHESS.CO and CHESSX.CO. The extended version, CHESSX.CO, contains a greater number of *book* moves. The book provides Romulus with a variety of prepared responses to situations that commonly arise in the early stages of the game.

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## Required Equipment

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- Tandy 200 Portable Computer
- AC Power Supply (26-3804) or 4 AA batteries
- Cassette recorder such as the CCR-81 or CCR-82 (Cat. No. 26-1208) and cable

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## Optional Equipment

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- Any Tandy "parallel" Printer
- Printer Cable (26-1409)

## PREPARE TO PLAY

If you are unfamiliar with the rules of the game, refer to Appendix A. Otherwise, your preparations involve merely loading the program and learning how to enter your moves.

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### Load the Chess Program

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Romulus is a machine language program that you load from cassette into the RAM of your Tandy 200. Because the game requires most of the available memory, do not save the program as a program file. If you use the memory for another application between chess games, reload the chess program.

To load CHESS.CO, you need 16648 free bytes of RAM; for CHESSX.CO, 18664 bytes. The exact number of Bytes free is displayed in the lower right of the Main Menu screen. If you need more free memory to load the chess program, try the following:

- If you have multiple banks, check the space available on other banks by pressing **F1** or **TAB**, or
- Copy files to another bank and then delete them from the original bank using **F5**, or
- Simply delete obsolete or unnecessary files using **F5**, or
- Save text files to cassette and then delete them from RAM

Instructions for deleting, saving, and copying files are in your *Tandy 200 Owner's Manual*.

When you have adequate memory to store the program, follow these steps to load either CHESS.CO or CHESSX.CO:

- 
1. Connect the cassette recorder to your computer as outlined in the *Tandy 200 Owner's Manual*. Normally, set the volume on 8 (though minor adjustments may be necessary).
  2. Insert the cassette provided with this package, and rewind it to the beginning.
  3. Set the recorder to PLAY.
  4. Turn on your computer, as described in your owner's manual. If you have additional memory banks, select a bank in which to load the program. (Press **TAB** to proceed to the next bank.)
  5. At the Main Menu, press **ENTER** with the marker over BASIC. The BASIC startup message appears on the screen, followed by the prompt, **Ok**.
  6. The cassette plays silently if you type:

**SOUND OFF** **ENTER**

7. When the computer returns with **Ok**, clear enough memory to store the program. To load CHESS.CO, type:

**CLEAR 100,44328** **ENTER**

To load CHESSX.CO, replace 44328 with **42312** in the command above.

8. At the **Ok** signal, type the load command, which automatically activates the cassette player. Be sure to enclose the program name in quotation marks.

**CLOADM "CHESS.CO"** **ENTER**

---

Type **"CHESSX.CO"** in place of **"CHESS.CO"** in the previous command to load the extended version.

When the processor locates the program you are loading from tape, a message appears on the screen. When you load **CHESS.CO**, the screen shows:

```
FOUND:  CHESS
TOP:    44328
END:    56000
EXE:    44328
```

When the program is loaded completely, the BASIC prompt, **Ok**, appears.

To display the chessboard and play a game, type the following command:

For **CHESS.CO**:                   **CALL 44328** .

For **CHESSX.CO**:                   **CALL 42312** .

The screen soon displays the game board and the copyright information. The initial prompt appears in the lower right corner of the screen.

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## Simplify Loading

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You can write a short BASIC program that loads either **CHESS.CO** or **CHESSX.CO** from cassette. Save the program and select it from the Main Menu whenever you want to load and execute the chess software.

- 
1. Select a bank using **TAB** or **F1**. If necessary, clear additional memory space so that the bank contains sufficient bytes free. The previous section suggests ways to do this. With the marker on BASIC in the Main Menu, press **ENTER**.

- 2a. At the BASIC ready prompt, **Ok**, type the following series of commands to load and execute CHESS.CO:

```
1 CLEAR 100,44328 ENTER  
2 CLOADM "CHESS.CO" ENTER  
3 CALL 44328 ENTER
```

- 2b. To use the extended version, type this alternate series of commands:

```
1 CLEAR 100,42312 ENTER  
2 CLOADM "CHESSX.CO" ENTER  
3 CALL 42312 ENTER
```

3. Save the BASIC program so that you can recognize and select it easily from the Main Menu. Type the command that corresponds to the version you chose to load and execute:

For CHESS.CO:           **SAVE "CHESS.BA"** **ENTER**

For CHESSX.CO:       **SAVE "CHESSX.BA"** **ENTER**

4. At **Ok**, press **F8** to return to the Main Menu.

The BASIC program you wrote and saved appears in the Menu. To use it, connect your cassette recorder as instructed in your owner's manual. Insert and rewind your program cassette and set the recorder to PLAY.

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Then, select either CHESS.BA or CHESSX.BA from the Main Menu. After your computer loads and calls the program, the chessboard appears. Romulus is ready.

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## Acquaint Yourself With the Board

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The left side of the screen displays the chessboard with all the chessmen properly arranged to begin play. The right side of the screen displays the move list, the level of play adopted by the computer, and messages to you, as they are needed.

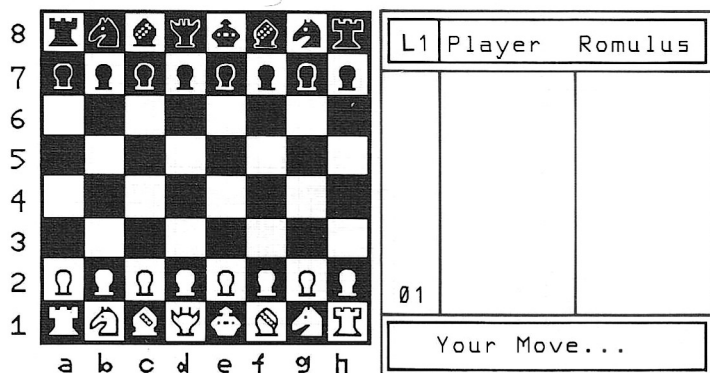
The vertical columns of squares, the *files*, are each assigned a letter, from a to h. The horizontal rows of squares, the *ranks*, are numbered from 1 to 8. See the screen that follows. Each square has a unique set of *coordinates*, determined by the file and rank that it occupies. Accordingly, the square in the lower left corner of the board has the coordinates a1, and the coordinates h8 identify the square in the upper right corner of the board.

At the outset, the white chessmen are always positioned on the first 2 ranks. The black chessmen oppose them from the 2 top ranks of the board, numbered 7 and 8. In the message area, a rectangular space at the lower right of the screen, you see the prompt:

Your Color? (B/W)



Press **[W]** to play White or **[B]** for Black. White always makes the opening move in the game. If you choose White, the screen appears as shown below:



The large, blank region above the message area keeps a running record of each player's moves. The moves are numbered in the narrow, lefthand column. White's moves are listed in the middle column, and Black's moves in the right. Above the columns of moves is a label line that identifies the players above their respective columns. (Romulus is to the left if he is White, to the right if he is Black.)

To the left of the column headings is a small square. After you choose your color, the level indicator shows you the level of difficulty at which Romulus is prepared to play. Level 1, abbreviated L1, is the *default* value, assigned whenever you enter the program from the Main Menu. It is the least challenging level.

To view a list of the available functions, press **[LABEL]**. The following information appears on the bottom line of the screen:

New Scrn Lev1 Bkup Edit Side Exit

---

These functions provide the following features:

- |             |  |
|-------------|--|
| <b>New</b>  | Press <b>F1</b> to start a new game.   |
| <b>Scrn</b> | Press <b>F2</b> to restore the chessboard after a power loss.  |
| <b>Levl</b> | Press <b>F3</b> to adjust the level of play of the computer.   |
| <b>Bkup</b> | Press <b>F5</b> to back up the situation on the chessboard, eliminating the last move for both Black and White.                          |
| <b>Edit</b> | Press <b>F6</b> to edit the arrangement on the board.  |
| <b>Side</b> | Press <b>F7</b> to swap sides with the computer so that you play the opposite color. This function lets you pit Romulus against himself. |
| <b>Exit</b> | Press <b>F8</b> to end the current game and return to the Main Menu.   |

Press **LABEL** a second time to eliminate the label line.

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## Your Move...

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When it is your move, the cursor flashes rapidly on the screen. It appears in the lower right corner of the board if you are White, in the upper left if you are Black. Using the arrow keys, move the cursor a space at a time until it is flashing over the man you want to move.

Press the space bar to pick up the piece. Immediately, the rapid flashing of the cursor stops. The chessman itself alternately appears and disappears until you place it on a suitable square. Use the arrow keys to move the man vertically and horizontally until it occupies an appropriate destination.

Press **ENTER** to position the man on the new square. If the move is consistent with "The Laws of Chess" (Appendix A), the cursor disappears and the chessman occupies the new position. (The computer disregards the path you take with the cursor to reach the destination.) If the move is not legal, the computer beeps once. Move the man to an appropriate square, and press **ENTER**.

Capturing one of Romulus's chessmen is no different from other moves. Simply move your man to the occupied square, and press **ENTER** to replace Romulus's man with your own.

If you pick up a man but decide that you prefer to move a different one, place the first chessman on its original square, and press **ENTER**. Then, proceed normally to make the alternate move.

Once you enter a legal move, Romulus begins to compute. The message, *Thinking*, appears as he evaluates possible moves. When he selects a move, the computer sounds a short beep. At the same time, the change of position registers on the board, and the new move appears on the move list.

If you press a function key while Romulus is determining his next move, the computer does not respond immediately. Only after Romulus's move appears on the screen and the prompt, *Your Move . . .*, replaces *Thinking*, does the computer perform the requested function (or succession of functions).

**On the move list**, each move is identified by two sets of coordinates. The first set specifies the square **from which** you move the piece; the second set locates the square **to which** you move it. A typical opening move for White, for

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example, appears as e2-e4 in the move list. This move advances the Pawn on the King's file 2 squares to the fourth rank. (The chessman itself is not specified because there can be no confusion about which man moves; only one man at a time can occupy a square.)

The beginning and ending coordinates are separated by a dash (regardless of whether or not the move results in a capture). If Romulus's move is a *checking* move (one that threatens your King), the move list displays + after the move. Your checking moves do not carry such a reminder.

As new moves are added in the course of the game, prior moves shift (scroll) upward in the list. Only 10 moves in a column can be displayed at a time. You can review moves that have scrolled off the screen by printing the move list.

When the move counter (in the lefthand column) reaches 99, the display space cannot accommodate larger numbers. Subsequent moves are displayed, but the counter repeats the number 99 for each.

**To castle**, move the King 2 spaces left or right, and press . The Rook takes its new position automatically. For example, when White castles queenside (across the square vacated by the white Queen), the correct move is e1-c1. White's Rook at a1 moves to d1, of course, but only the King's move appears on the move list.

**To promote a Pawn**, simply answer the prompt that appears in the message area when your Pawn reaches the last rank:

Promote to :

Press  for Queen,  for Rook,  for Bishop, or  for Knight. The replacement appears at once.

### Assess Your Opponent

In general, Romulus becomes a more sophisticated opponent as he considers a greater number of possible moves and anticipates a wider range of successive countermoves. Even for Romulus, such considerations require time; the higher the level of play he adopts, the more time a move requires.

Romulus can adopt 7 distinct levels of play. The table below indicates the approximate time he requires per move at a given level of play:

Level	Time Required per Move
1	10-15 seconds
2	25-30 seconds
3	55-60 seconds
4	2 minutes
5	2½-3 minutes
6	5-5½ minutes
7	8-10 minutes

To change Romulus's level of play at any point in the game, press **[F3]**. Each time you press the function key, the level increases. From L7, the level returns to L1. If Romulus is thinking, the level does not change until he has moved.

In the early stages of the game, Romulus often moves rapidly. These early moves belong to Romulus's *book*, a limited set of early moves that develop a particular offense or defense. The book is sufficiently varied that you cannot predict with certainty Romulus's response to an opening move.

The extended version of the chess program, **CHESSX.CO**, devotes additional memory space (approximately 2K) to the

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book. The extended book affords Romulus a greater variety of responses during the early stages of the game.

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## Retreat!

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If you enter a move accidentally, Romulus bends the rules to permit you to change the entry. After Romulus makes his countermove, press **F5** to reverse both his last move and your unintentional (or ill-considered!) move. The moved chessmen return to their previous positions, and any captured chessmen are replaced. Romulus also eliminates the 2 moves from the move list.

After the moves are canceled, the screen prompts:

Your Move ...

Romulus permits you to erase only your previous move. To reestablish a situation prior to the previous move, use the EDIT function, described in the following section. Also, use the EDIT function to back up a move that includes a Pawn promotion or a Pawn capture *en passant*.

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## Trade Sides

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Romulus allows you to trade colors with him, so that he takes over the play of your chessmen while you play his. When it is your turn to move, press **F7**. Romulus assumes control of your men, and the message, *Thinking*, is displayed while he determines his next move. The headings above the move list swap to reflect the change of sides.

After Romulus moves, the screen prompts you to make the next move for the color formerly controlled by Romulus. You

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can press **F7** to trade sides once again. In this way, you can observe as Romulus plays both sides, in effect, playing against himself.

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## Regroup

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One technique for improving your skill is to analyze a particular situation that seems crucial to the game. Using the EDIT function, you can test various moves to determine their outcome. If you are rehashing a situation from a completed game, you can use a printed move list from the game to position the chessmen correctly.

To edit the board, press **F6** when it is your move. The move list vanishes, and the message area shows:

Edit Board...

Move the cursor to a square you want to revise. To remove an existing chessman and leave the square empty, press the space bar. To place a man on the square (occupied or unoccupied), press the key corresponding to that chessman from the following list:

<b>K</b>	King
<b>Q</b>	Queen
<b>R</b>	Rook
<b>B</b>	Bishop
<b>N</b>	Knight
<b>P</b>	Pawn

**Note:** In editing, you can exceed the usual number of pieces if you choose, but additional Kings are disallowed. Romulus is not designed to comprehend theoretical arrangements that vastly exaggerate the number of

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possible moves. Such a situation arises if you edit the board to include 6 or more queens, for example.

After you press a key, specifying the man you want, the cursor stops blinking. The screen prompts you to assign a color for the chessman. Press **[B]** for black or **[W]** if you want the chessman to be white.

The selected man appears in the square and the cursor begins to flash once again. Continue to edit the board in this manner until you are ready to resume play. To terminate the editing session, press **[F6]**. The cursor disappears and the message area displays the prompt:

Your Color? (B/W)

Press **[B]** to return to the game as Black or **[W]** for White. Romulus takes the opposite color automatically. The next prompt is:

Whose move? (B/W)

Press **[B]** to indicate that it is Black's turn to move when play resumes. Press **[W]** to specify White. If you interrupt a game to edit the board, the move list for the incomplete game does not return. The numbering of moves begins again with 01.

Using the EDIT function, you are able to play a series of moves for both White and Black. While editing the board, move the cursor to the chessman you want to move; then, "pick it up" as you would normally by pressing the space bar (which clears the square). Move the cursor to the destination square, and identify the man in its new square by piece and color. Make the next move for the opposing color.

To "capture," simply move a chessman to the occupied square and identify the new occupant. None of the moves that you make in this fashion appears in the move list. It is



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a useful way, however, to control temporarily the moves of both players.

Between editing sessions, reset the board.

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## Conclude Play

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You can conclude a game in a number of ways. One possibility is simply to press **F8** when it is your turn to move, exiting the game and returning to the Main Menu. If you re-enter the program, the previous arrangement of the chessmen is gone; the board is reset for a new game.

If you want to start a new game without completing the current one, press **F1**. Romulus resets the board and prompts you to choose a color.

To save the move list of a partial game, press **PRINT** before you press **F1** or **F8**. In the message area, the screen displays:

Ready Printer

Be sure that your printer is properly connected and turned on. Then, press **ENTER** to proceed. The list is printed on the left margin of the paper. To stop printing at any point, press **SHIFT BREAK**. Romulus prints only the first 99 moves in the list.

When a game ends in a checkmate by either player, a beep sounds and the message area displays:

Checkmate !

This message alternates with Congratulations or (Condolences), depending on the outcome of the game. Press

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any key to proceed. The computer offers a printed copy of the move list:

List Game? (Y/N)

Press  to decline or  to accept the list. If you press , Romulus resets the board for another game. If you elect to print the move list, the screen prompts, Ready Printer. Press  to begin printing. To stop printing at any point, press  .

A move list does not represent an unchanging sequence of responses from the computer. In response to the same situation, Romulus can vary his pattern of defending or attacking, particularly during the early stages of the game.

When a stalemate occurs, Romulus automatically registers the message:

Stalemate !

which alternates with:

Players Draw

Proceed as with a checkmate by pressing any key to cancel the message and then answering the prompt for the printed move list. Romulus does not identify drawn games other than stalemates; check Appendix A to review the conditions which produce a draw.

## Appendix A THE LAWS OF CHESS

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### Chessboard

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Chess is a game between two players who oppose each other from opposite sides of a square chessboard. The chessboard consists of 64 squares, arranged in 8 rows called *ranks* and 8 (vertical) columns called *files*. The squares are colored alternately light and dark (called white and black). Squares of the same color that crisscross the chessboard are called *diagonals*. The board is placed in such a manner that each player has a white square in the lower right corner.


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### Pieces and Pawns


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At the beginning of the game, each player has a set of 16 chess pieces, enough to fill the first 2 ranks. The first rank is occupied by the *pieces*: a King and Queen, 2 Bishops, 2 Knights, and 2 Rooks. The 8 men in the second rank are called Pawns. The pieces and Pawns are depicted on the screen by symbols. If you choose to play White, for example, your chessmen appear as follows:


King 

Queen 

Rook 

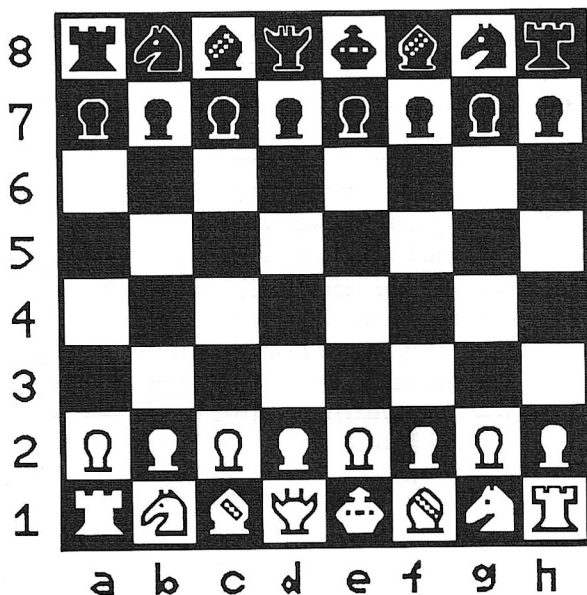
Bishop 

Knight 

Pawn 

---

At the beginning of the game, the chessmen are arranged as follows:



Notice that the arrangement of the black chessmen mirrors exactly that of the white. Also notice that a Queen begins the game on a square of its own color.

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## Moving Your Chessmen

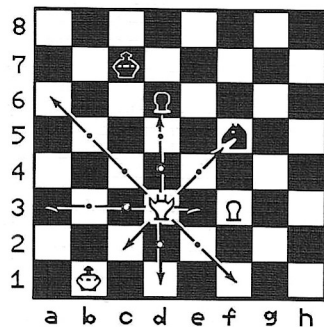
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The object of chess is to capture your opponent's King. White always makes the first move of the game. You and your opponent take turns moving a single move at a time. Each time it is your turn, move a man to a square that is either vacant or occupied by an opponent's man. (The sole exception, castling, is described later.) When you play a man to a square occupied by your opponent, you *capture* the enemy man. The captured man is removed from the board.

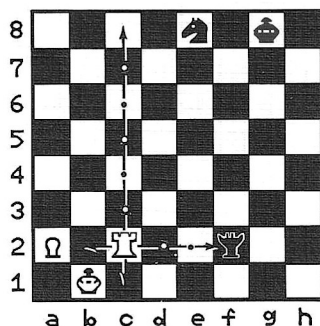
Each type of chessman has a characteristic way of moving. No man, however, except a Rook when castling, and a Knight, can cross a square occupied by another man.

### Queen

You can move the Queen any number of squares along the rank, file, or diagonal on which it stands, provided there is no obstructing piece. On the board at right, you can move the Queen to any of the vacant squares indicated. You can capture either the black Pawn at d6 or the Knight at f5.



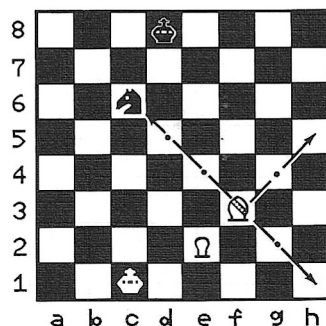
### Rook



The Rook moves to any square along the rank or file on which it stands, provided there is no chessman blocking its way. The Rook at left can move to any of the vacant squares indicated or capture Black's Queen at f2.

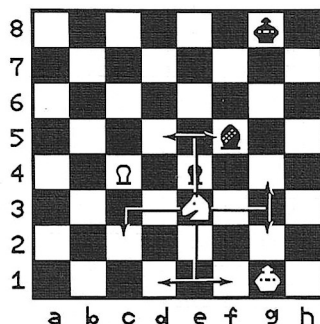
## Bishop

The Bishop moves diagonally, remaining on its original color throughout the game. You can move the Bishop any number of squares, provided that its path is unblocked. On the chessboard at right, you can move the Bishop to any of the vacant squares indicated or capture the Knight on c6.



## Knight

Move your Knight in an L-shaped leap. You can move it either 2 squares along a rank and then 1 square along a file, or 2 squares along a file and then 1 square along a rank. The Knight can leap over any other piece, black or white, in its path.



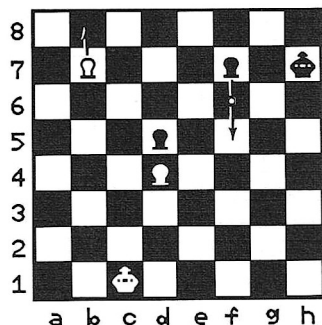
On the chessboard shown here, you can move the Knight to any of the indicated vacant squares or capture Black's Bishop on f5.

## Pawn

The Pawn moves forward only. From its original position, you can move it either 1 or 2 squares ahead in its file. On subsequent moves, you can move it a single square forward, provided that the square is vacant.

If you advance a Pawn to the farthest rank, *promote* the Pawn immediately. You can choose to exchange the Pawn for

either a Queen, Rook, Bishop, or Knight (no second Kings!), regardless of what other pieces you still have on the board.

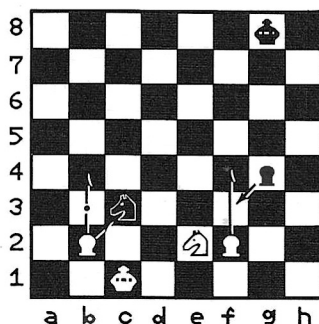


On the chessboard shown at left, the white Pawn at b7 can advance to b8 and be promoted (on the same move). The Pawns at d4 and d5 are preventing one another from further advancement. Black's Pawn at f7 (previously unmoved) can move to either f6 or f5.

Uniquely, the Pawn captures in a manner that is unlike its normal advancing move. While you are still restricted to forward movement, you capture with a Pawn in a diagonal direction. The Pawn can attack only the adjacent diagonal square.

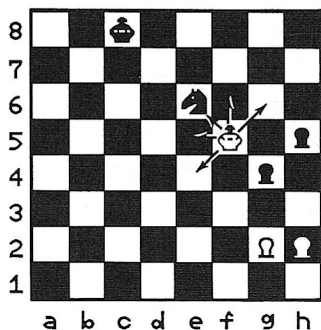
The special *en passant* capture (capture in passing) permits a Pawn to capture a hostile Pawn that crosses its line of attack. If your opponent moves a Pawn 2 squares forward on the Pawn's first move and your Pawn could have captured it had it been moved only 1 square forward, you can capture the enemy Pawn on the move immediately following its advance. Capture the opponent's Pawn as if it had advanced only 1 square (to the square that it passed over).

The diagram to the right illustrates capture by Pawns. If you are White, you can move your Pawn at b2 to either b3 or b4 or you can capture Black's Knight as shown. If you advance your other Pawn 2 squares to f4, Black can capture it *en passant* on the next move.



### King

Though the game revolves around the King, its moves are extremely limited. You can move the King only 1 square at a time in any direction—forward, backward, to the right or left, or diagonally. You cannot move the King to a square that is attacked by a hostile man (place your King in check).



In the example above, you are White. You can move your King to any of the indicated vacant squares or capture Black's Knight at e6. Moving your King to f4 or g5 is illegal because the 2 squares are attacked by Black's Knight. Capturing the Pawn at g4 is also illegal because the square is attacked by the remaining black Pawn.

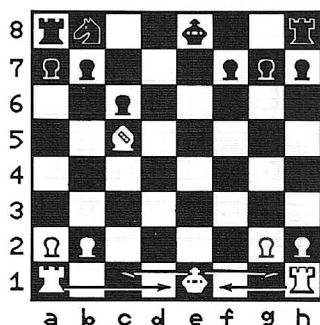


## Castling

Castling is a special move that you can make with your King and one of your Rooks. The move is useful because it usually protects your King and results in a better position for your Rook. You can castle only once in a game, and then only if you have not previously moved either your King or the Rook you use in castling.

To castle, move your King toward one of your Rooks, and then move the Rook to the square passed over by the King. All the squares between the King and the castling Rook must be empty.

One other condition temporarily prevents you from castling. If the square occupied by your King is under attack by your opponent's man, you cannot castle to escape. Neither can you move your King across or to a square that is attacked by an opposing man.



On the chessboard shown at left, White can castle to either side, as indicated. Black can castle to neither side. To castle *kingside* (with the Rook at h8), the King must cross f8, which is attacked by White's Bishop. The presence of the Knight at b8 prevents castling to *queenside* (with the Rook on a8).

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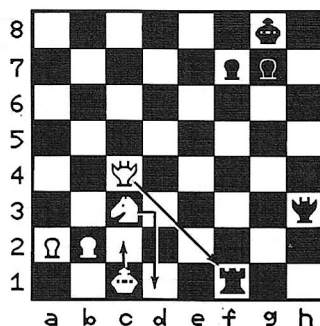
## Check and Checkmate

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When an opposing chessman attacks the square that your King occupies, the King is *in check*. You can save your King by:

- Moving the King to a square that is not attacked,
- Capturing the attacker, or
- Interposing a piece in the line of check.

On the board at right, White's King is in check. If you are White, you can evade capture by making any of the moves indicated. Advancing your King to c2 moves it out of the black Rook's line of attack. Another possibility is to capture the attacking Rook with your Queen, c4-f1. Finally, you can move your Knight to d1, blocking the Rook's attack on the Queen.



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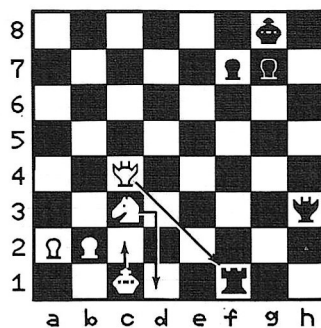
## Check and Checkmate

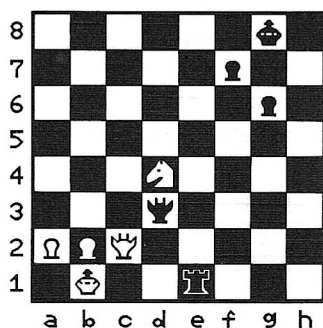
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the Rook's attack. But neither move is legal because they expose your King to attack by your opponent's Queen. You are checkmated.

When you can no longer escape check, you are *checkmated*, and the game is over. In the situation to the left, you are White. Black's Rook has moved to the first rank, attacking your King. You cannot move your King to a safe square, nor can you capture the attacking piece. Moving your Queen to c1 or d1 blocks

## Drawn Games

When you are playing Romulus, a game can end in a draw in any of 4 ways. One of these ways, called a stalemate, occurs when a player cannot make a legal move although the player's King is not in check. Romulus displays a message *Stalemate*, in this event.

To declare a draw other than a stalemate, you must recognize that one of the following criteria has been met:

- Neither you nor your opponent has sufficient material (strength of forces) to force checkmate.
- You and your opponent reach exactly the same situation on the board 3 times in a single game, regardless of the number of intervening moves.
- During a series of 50 consecutive moves, no capture is made and no Pawn moved.

## Appendix B FUNDAMENTAL STRATEGY

Generalizations are treacherous. Each situation on the chessboard has its own particular demands. But a few guidelines are useful in evaluating the relative importance of pieces and in evolving a basic strategy for positioning them.

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### Relative Value of Pieces

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Students of chess have developed a simple rating system that reflects the relative value of the different chess pieces. The value of each piece depends upon its range of movement and its role within an overall strategy.

For example, compare the Knight to the Bishop. The Bishop can attack from a greater distance than the Knight, but the Knight can leap intervening pieces. Also, because of its indirect line of attack, you can maneuver a Knight so that it attacks any opposing chessman without being threatened by that piece in return. You can position the Knight on either color square, while with a Bishop you can command a single color only, either black or white squares. But at any given moment, the Knight attacks only squares opposite in color to that on which it stands. The list of considerations grows and grows.

After taking into account a great number of factors, chess experts have arrived at the following rating system. It compares the value of each piece to the value of a single Pawn.

If a single Pawn = 1, then:

α Knight = 3

α Bishop = 3+

α Rook = 5

α Queen = 9

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The Bishop has a slight edge over the Knight. The King has no assigned value; it is indispensable!

The relative values of the pieces are useful in deciding which player is leading at a certain point in the game. They help you determine whether a particular trade of pieces will work to your advantage or to your opponent's. Bear in mind, however, that the pieces you possess are of little value if you do not position them well.

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## Hints on Play

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If you choose to play White, you have an immediate advantage because you make the first move. During the opening stages of play, observe the following guidelines:

- Gain control of the center of the board.
- Develop your pieces rapidly.
- Deploy Knights before Bishops.
- Castle early on the more sheltered wing.
- Try to prevent your opponent from castling.
- Position your pieces so that they have the greatest possible scope and freedom of movement.
- Do not block development of your Bishops by advancing your Pawns a single square on Files d and e.
- Avoid *doubled* Pawns (2 of your Pawns in the same file).

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- Connect your Rooks (move pieces that separate them) as soon as you can, and move them to open files.
  - Avoid giving useless checks.

Many other pearls of chess wisdom exist, all limited, of course, by the endless variety of situations that can occur. The essential considerations are constant, however: safety of the King, mobility of the pieces, and pursuit of an advantage in *material* (the strength of your forces apart from arrangement).

The soundest advice is to gain experience by playing.

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- Any Tandy "parallel" printer and cable





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